SITE: FL Phosphate Initiative
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June 3, 2003

MEMORANDUM

SUBJECT: Response to the Office of Inspector General's Evaluation Report entitled "Implementation, Information, and Statutory Obstacles Impede Achievement of Environmental Results from EPA's Nation Hardrock Mining Framework"

FROM: Marianne Lamont Horinko/s/
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TO: Kwai Cheung-Chan
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Office of Program Management

This memorandum transmits the consolidated response from the Office of Solid Waste and Emergency Response (OSWER), EPA National Hardrock Mining Team (NMT), the Office of Research and Development (ORD), the Office of Radiation and Indoor Air (ORIA), the Office of Federal Activities (OFA) and the Office of Water (OW) on the Office of Inspector General's (OIG) Draft Evaluation Report entitled "Implementation, Information, and Statutory Obstacles Impede Achievement of Environmental Results from EPA's Nation Hardrock Mining Framework," dated April 21, 2003. We would like to convey our appreciation for the significant effort the OIG staff put into gathering information, developing findings and providing recommendations. Additionally, we appreciate the time the OIG staff spent with us discussing their progress during the course of the review.

In reviewing the draft, we are concerned that there is a misunderstanding as to the goals of the National Hardrock Mining Framework. Section 1.4 of the Framework stated, "This EPA Hardrock Mining Framework is intended primarily to assist EPA staff in implementing an effective multi-media/multi-statute mining program." When the Agency issued the Framework in 1997, we believed that it was self-implementing and as a consequence resulted in the: 1) coordination of agency-wide technical skill and financial resources to assure better decision making; 2) preparation of mine waste guidance documents; 3) coordination of mine waste research; and 4) coordination of mine waste issues with other federal agencies.

The OIG report should have noted these accomplishments resulting from our implementation of the Framework. These accomplishments have improved federal decisions and coordination at specific sites and have led to environmental improvement and reduced liability.

Examples of the implementation of the Framework are:

- The Agency, in1998, established the NMT comprising cross-program mining experts from headquarters and regional offices. Since its establishment, the NMT has conducted 50 monthly conference calls to coordinate and provide technical expertise for mine permitting, the review of Environmental Impact Statements (EISs), and Superfund site characterization and cleanup activities. This was the first self-directed, multi-program EPA team and continues to serve as the main clearinghouse for all national and international mining related issues.

- The NMT realized, in 2000, that implementation of the Framework would be better served by creating a group solely devoted to the cleanup and redevelopment of Abandoned Mine Lands (AMLs). Prior to the OIG initiating its study, the Office of Emergency and Remedial Response (OERR), in 2001, had already created the Abandoned Mine Lands Team (AMLT), a subgroup of the NMT. Furthermore, the AMLT initiated the development of an action plan, which has led to the issuance of specific guidance for the characterization and cleanup of AMLs. The AMLT is currently working with the Superfund Revitalization Initiative (RI) and the Brownfields program to promote the redevelopment and reuse of AMLs. Working with these programs, the AMLT identified 4 redevelopment pilot initiatives at mining sites and developed a definition of "Mine Scarred Lands" to maximize Brownfields funding opportunities at mine sites. Finally, EPA Region 7 is cooperatively working with USDOT and Missouri DOT to reuse mine waste materials (chat) from the Jasper County Superfund site as interstate highway roadbed material.

- The CERCLA Program has addressed or is in the process of addressing 87 AML sites on the National Priorities List. The program has also undertaken hundreds of removal actions at AMLs sites. Since 1998, the NMT has provided technical input at over a dozen active and inactive mining sites. For instance, the NMT and the AMLT have provided expertise and input to the Superfund alternative site initiative at the Copper Basin Mine site in Tennessee and the Rio Tinto and Anaconda Mine Sites in Nevada .

- EPA Regions 8, 9, and 10, formed regional mining teams in 1998. These cross-programmatic regional teams, as envisioned in the Framework, have not only developed two to three year self implementation plans but they have also developed critically important mining guidance such as Region 10's *EPA and Hardrock Mining: A Source Book for Industry in the Northwest and Alaska.* Since 1999, Regions 8 &10 mining teams meet annually with the Bureau of Land Management (BLM), US Forest Service (USFS), Mining Industry, Tribes and States to coordinate mining activities on a cross

program regional basis in order to better coordinate federal decision making at mine sites.

- As a natural outgrowth of the Framework, the NMT organized and convened interagency national mining meetings (Fed Fest) every three years since 1998 to better coordinate each agency's mining programs. These meetings have become the main forum to share interagency experience and expertise on mining issues between EPA the other federal land management agencies (FLMA), such as the USFS, BLM, Office of Surface Mining (OSM), National Park Service (NPS) and the US Fish and Wildlife Service. Based on initial discussions at these meetings, the agency subsequently reached a joint multi-agency agreement at the Lutrell Pit site in Montana. This joint agreement led to the creation of a single mine waste repository as opposed to the development of multiple mine waste dumps throughout the watershed. The use of a single repository resulted in improved water quality and reduced disturbance impacts.

- The NMT has worked extensively, since 1998, with the Office of Prevention, Pesticides and Toxic Substances to expand the Toxics Release Inventory to include reporting of releases to the environment from the mining sector. The mine waste release information indicates that this sector is the largest single contributor to all releases to the environment. For example, use of this data has led to a Nevada Mining Association/EPA Region 9 voluntary program to reduce mercury releases from gold mines.

- Since 1998, the NMT has promoted sound decision making through the issuance of the following guidance documents:

  - Region 10's 2003 guidance -- *EPA and Hardrock Mining: A Source Book for Industry in the Northwest and Alaska.* This handbook is the first Agency document, which provides a hands-on guide on how to manage water discharges from active mines located in high rainfall environments. The document promotes a multi-media and multi-program approach for the management of environmental effects from active mines.

  - ORIA's 2003 guidance -- *Potential for Radiation Contamination Associated With Mineral and Resource Extraction Industries.* This is the first guidance document which recommends best management approaches to characterize the nature and extent of radiological contaminants at hardrock mining sites. The extent of radiation contamination other than that found at uranium mines was not well understood until the issuance of this document. This document has been widely distributed across EPA to regional Superfund staff, On-Scene Coordinators, NMT, and field RCRA and Water Office inspection staff, and has been provided on request to other State and Federal agencies involved in abandoned mine site investigations and cleanup.

Office of Solid Waste and Emergency Response 2001 guidance -- *Abandoned Mine Site Characterization and Cleanup Handbook.* This document is the first Supefund document solely devoted to the most cost effective and state of the art characterization and cleanup approaches for abandoned mine sites. Prior to the issuance of this document, there was no Agency-wide guidance for use by the FLMA and states in their decision making at AMLs.

- The Framework specifically noted that there was a need for additional research on mine waste issues. To meet this need, ORD sponsored a series of national hardrock mining technical conferences the included: Hardrock Mining Conference 1998, Mining Impacted Pit Lakes Workshop 2000, Mercury in Mining Technical Workshop 2000, Arsenic Technical Workshop 2001, and the Hardrock Mining Conference 2002. In 2003, ORD created a Hazardous Substance Research Center for Mining (CSM, CSU, Montana Tech), whose sole purpose is to address agency directed mine waste research needs. The AMLT and ORD are co-sponsoring a Mining on Tribal Lands Conference in September 2003, which will bring together and Federal and State agencies to discuss mine waste issues unique to tribal lands. The proceedings from the technical conferences sponsored by ORD, since 1998, have become some of the most important technical information used by the EPA and other agencies for addressing mine sites.

  ORD has also provided on the ground technical (investigation and technology demonstration and selection) support at various mining sites including, but not limited to, the Elizabeth mine site in Vermont, the Luttrell Pit Site in Montana, the Rio Tinto and Anaconda mine sites in Nevada and the Leviathan Mine site in California.

As a result of reassessment of the Framework, OERR's AMLT has been working with other program offices and the regions for over a year to develop an implementation plan for addressing hard rock mining sites. We expect to finalize this plan by December 2003. Such an effort would fulfil your recommendation that the Agency develop a specific implementation strategy that accounts for existing gaps in the Framework.

The report concluded that the Agency has limited regulatory control over active mining sites. That is accurate with regard to the regulation of solid wastes from mining (the Bevill amendment); however, the Agency has broader regulatory authority over mining activities under the Clean Water Act (CWA) and the Clean Air Act. The Agency continues to assess how it can better exercise its existing authorities to be environmentally preventive rather than rely on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The report concludes that the Agency does not have enough information documenting the nature and scope of the environmental impacts from mining. The Agency does not agree with this conclusion. Furthermore, the Framework did not identify the collection of this type of information as being critical to the implementation of its mining program. Nevertheless, the Agency did in fact collect a significant body of information related to the environmental impacts from mining under the Superfund Program, RCRA, OFA, ORIA, Office of Prevention, Pesticides

and Toxic Substances (OPPT) and OW. For example, the Superfund program has collected a significant amount of environmental impact data at mine sites placed on the National Priorities List (NPL) as well as information collected during remedial responses. RCRA updated 1985 and 1991 mining impact data in the Land Disposal Restriction Phase IV technical background documents in 1998. The water program characterizes mining impacted water in its routine issuance of mine site NPDES permits process and under its impaired waters program. Furthermore, during OFAs' section 309 review of EIS's for mine sites, they routinely evaluate the potential for adverse environmental impacts at operating and proposed facilities. ORIA dedicated significant efforts to characterize radiological impacts of mining on Navajo lands. Finally, OPPT has collected a broad range of information on environmental releases from mine sites through the Toxics Release Inventory (TRI) program.

The Agency acknowledges, however, that our understanding of the number, location and scope of high risk AMLs sites solely within our jurisdiction needs improvement. To address this need, the AMLT is currently finalizing grants to Missouri and Virginia to identify priority AMLs in those states. The AMLT is working with the Regions to update the AML information currently found in CERCLIS and has internally reviewed the status of State and other Federal program AMLs inventories.

The Agency acknowledges that we have not been successful in implementing the meetings of the National Interagency Coordinating Committee (NICC). The Agency continues to believe that the formation of a senior level group serving as a forum for overarching mining issues, continues to have merit. The NMT will continue to interact with FLMA to further evaluate this matter.

EPA program management believes the Framework has utility and is being implemented as outlined above. The programs agree that a strategic plan for implementation of regional aspects of the Framework is appropriate and work is already underway on such a strategy.

More detailed responses to the draft report conclusions and recommendations are provided in Attachment 1.

We appreciate the opportunity to comment on this draft report. Again, we are currently implementing recommendations and action items laid out in the Framework. Furthermore, the AMLT is currently developing a mining strategy which would address the Framework implementation concerns noted in your report. Should you have any questions concerning the comments, you may contact Shahid Mahmud at (703) 603-8789 or Johnsie Webster,OSWER Audit Liaison, at (202)-566-1912.

Attachment

ATTACHMENT 1 DETAILED RESPONSES

A. Primary Comments on Conclusions and Recommendations:

1. Implementation of the Framework has improved federal decisions and coordination regarding specific sites and has ultimately resulted in environmental improvement and reduced liability. Improvements in Federal decision making are as follows:

   - The Agency, in1998, established a headquarters hardrock mining team composed of senior staff from most program offices that had mining jurisdiction. That group conducted 50 monthly conference calls for cross program and regional mining experts to coordinate mining issues. As an outgrowth of these calls, in 1999, the team provided technical support to EPA Region 4 during its inquiry into the nature and scope of mining impacts at the Copper Basin site in Tennessee and encouraged the development of guidance on site assessment of radioactivity at AMLs mine sites. Additionally, in regions without Regional Mining Teams (1,4,5, and 6), the NMT has provided technical guidance to assist these regions in addressing hardrock mining issues within their respective regions on an as needed basis. Finally, as a result of these calls, the team also recently assisted in the preparation of a detailed financial assurance evaluation for a mining EIS) at the Phoenix mine in Nevada which was another key goal of the Framework.

   - Under the Framework, Regions 8, 9, and 10 formed regional mining teams and regional mining coordinators. For example, the Region 10 mining team has strengthened integration between the CWA and Superfund Programs, resulting in improved oversight, better decisions, and more flexibility at over a dozen active and inactive mining sites where both Superfund and CWA authorities are being used to achieve environmental improvements (e.g., CdA Basin, Hecla Grouse Creek, various active phosphate mines). Finally, better integration of Superfund and CWA authorities in Region 10 has influenced how we oversee active mining sites by focusing attention on long-term and underbonded environmental liabilities (e.g., Kinross DeLamar Mine, Thompson Creek Mine).

     Region 8, among other activities, has used the Superfund Site assessment program with the Water program to develop risk-based prioritizations of mine sites on a watershed basis (e.g., Left-hand Canyon, Animas's Total Maximum Daily Load, Willow Creek-Creede and French Gulch , Clear Creek, and Arrastra Gulch in Colorado).

   - The team has organized and held agency-wide cross-program national technical mining meetings for our staff three times over the last five years and hosted the

"fed fest," where key federal agencies meet to coordinate their mining programs. The draft report's inference that the Framework's focus on coordination has no environmental value is not accurate, since coordination of our expertise and resources has, in fact, led to better cross program participation and decision making by our staff in mining issues throughout the country.

- We believe that implementation of the Framework has led to improved federal decisions and coordination regarding specific sites that ultimately result in environmental improvement and reduced liability. For example, we believe the use of the recently released Region 10 *EPA and Hardrock Mining: A Source Book for Industry in the Northwest and Alaska (AKA* the "Source Book") will result in a more protective mine plan, and ultimately environmental improvement and reduced environmental liability. Similarly, the development and use of the OSWER's *Abandoned Mine Site Characterization and Cleanup Handbook (March 2001)*, combined with improved training, will result in improved and streamlined decision-making at many abandoned mine sites.

2. The OIG report concluded that there was a lack of documentation on the success of the Framework. The Agency asserts that the report failed to identify the success of the Framework. We believe that this failure is due to the use of a survey, which contains imprecise questions and an evaluation limited by a 15 response sample size. The Agency questions how conclusions could be reached on a sample size that may not be statistically significant.

   The OIG survey questions focused on EPA's national level activities, while the report failed to focus on EPA Regional activities or on coöperation with others federal and state agencies. An example of how the report failed to identify this type of cooperation with other agencies at AMLs is our activities in Montana. The Lutrell Pit project in Montana is a joint agreement between EPA, USFS, BLM and the State of Montana, which has resulted in combining mine waste into one location rather than several sites throughout the watershed. This interagency cooperation has resulted in improved water quality and reduced disturbance impacts by having a single site repository.

3. The national mining team has met with stakeholders on an regular basis for the last six years.

4. As noted earlier, the Agency acknowledges that we have not been successful in implementing the meetings of the National Interagency Coordinating Committee (NICC). The Agency continues to believe that the formation of a senior level group, serving as a forum for overarching mining issues, continues to have merit. The NMT will continue to interact with Federal Land Management Agencies to further evaluate this matter.

5. The report gives the impression that the Agency's statutes have limited regulatory reach to address mining. Under the Clean Air Act, the Agency was able to establish regulations for the control of radioactive mine waste from the phosphate industry. The CWA currently has regulatory authority over point source discharges from mines, but does not regulate non-point discharges. CERCLA has clear jurisdiction over all hazardous constituents found in mining waste. The Agency has limited authority under RCRA due to the Bevill Amendments.

B. Agency Implementation of Specific National Hardrock Mining Framework Recommendations

Recommendation #1:

Promote improvement of scientifically-based predictive tools (e.g., acid mine drainage and metals mobility) used in evaluating the environmental impacts of mine sites.

Agency Action:

The NMT continues to support the allocation of Agency resources for the Region 3 acid rock drainage consortium. That consortium continues to address research related to acid rock drainage and the Hardrock team continues to support this effort in any way it can.

Recommendation #2:

Integrate NPDES permitting and NEPA site evaluation activities, where EPA has jurisdiction.

Agency Action:

The NMT continues to work directly with regional NPDES permit writers to fulfil their need for mining related technical support. We have provided technical support to Regions 8, 9, and 10 related to NPDES or TMDL activities. For example, Region 10 has made a concerted effort to integrate NEPA and NPDES permitting, along with other major State and Federal permits as seen in the recently released Pogo Gold Mine Draft Environmental Impact Statement (DEIS). EPA is the lead agency and was able to include draft NPDES and State solid waste, access and land use permits in its document.

Recommendation #3:

Promote an adequate consideration of environmentally protective standards and preferred alternatives in EISs.

Agency Action:

The Framework has led to improvements in EPA's NEPA compliance and section 309 EIS review process at mine sites. For example, the use of a multi-disciplinary mining team in Region 10, with staff that had experience in all phases of mining (from permitting, to operation, to cleanup), has resulted in comprehensive and detailed comments and recommendations on every EIS for proposed projects we have evaluated in the past five years (e.g., Kensington, Formation Capital, several large phosphate mines, Thompson Creek, and others).

Recommendation #4

Evaluate the adequacy of current waste management practices and promote standards of practice that achieve risk-based, long-term environmental goals.

Agency Action:

The AMLT is currently developing guidance on the proper design and operation of tailings ponds and waste rock piles as well as a guidance on how to properly calculate water balances at mine sites.

Recommendation #5:

Promote utilization of a geographic/risk-based approach to prioritize inactive/abandoned mine cleanup.

Agency Action:

Region 8's current geographic initiative grants program, focusing on Mining Headwaters, is a result, in part, of the Framework. Under this program many new and innovative techniques for avoiding or mitigating impacts from mining were developed (for example, the Mary Murphy Mine, demonstrated new technologies for evaluating and implementing in-mountain diversions to prevent pollution from occurring).

Recommendation #6:

Use targeted enforcement/compliance approaches to better focus resources on highest priority operations.

Agency Action:

The NMT has provided technical support to enforcement actions at mines in Utah, California, Alaska, and Arizona.

Recommendation #7:

Work with the Army Corps of Engineers to consistently define "fill" and to apply the waste treatment exclusion.

Agency Action:

The OW issued a final CWA 404 rule on May 9, 2002 (67 Fed. Reg. 31129). This rule was developed jointly with the US Army Corps of Engineers (USACE) and has resulted in a single consistent definition of fill material.

Recommendation #8:

Prepare guidance and provide training on CERCLA site assessment, investigation, and screening tools.

Agency Action:

The AMLT issued the Abandoned Mine Lands Site Characterization and Clean-up Handbook in March 2001, which directly meets this goal. ORIA has recently issued guidance, *Potential for Radiation Contamination Associated with Mineral and Resource Extraction Industries*, which provides a means for staff to determine if sites are potentially radioactive.

Recommendation #9:

Compile and update information regarding grants available to fund remediation projects and distribute to stakeholders.

Agency Action:

The AMLT is currently compiling a list of available Federal and State funding mechanisms for remediation of mine sites. As soon as this effort is complete, this information will be made publicly available. To further aid in the dissemination of this type of information, the AMLT is also developing a AMLT website. The AMLT is currently finalizing grants with the States of Missouri and Virginia to better characterize AMLs. These grants will be issued by September 2003.

Recommendation #10:

Encourage development of cost-effective environmental control technologies for both active and inactive mine sites.

Agency Action:

The NMT participates in and supports TIO's pilot remediation evaluations and also supports the ongoing EPA's Superfund Innovative Technology Evaluation (SITE) program within OERR. The Hardrock team worked with ORD in ORD's creation, in 2002, of a Hazardous Substance Research Center, run by the Colorado School of Mines, to focus research on the remediation of active and abandoned mines.

Recommendation #11:

Evaluate the adequacy of mining EISs with regard to the provision of financial assurance for long-term support of environmental management systems.

Agency Action:

The NMT routinely provides technical support to EPA regional EIS review teams. The team contributed significantly in the preparation of comments on the proposed Phoenix gold mine in Nevada, specifically related to the need for financial assurance at this site. The Mining Framework, related meetings and training increased EPA's ability to participate early in the EIS process for large mine projects. EPA's comments, pursuant to its 309 review authority, are now more nationally consistent due to increased access to staff with technical mining expertise on issues such as acid rock drainage (ARD), mine design, and financial assurance. Examples of mine site EISs that utilized NMT expertise include: Kinross-DeLamar Mine, Thompson Creek Mine, Phoenix Mine, Pogo Gold Mine, Kensington, and Formation Capital.

Recommendation #12:

Encourage reprocessing of historic mine wastes in conjunction with or as a component of site cleanup.

Agency Action:

The NMT worked with the OW in its development of a coal remining effluent standard issued two years ago. (40 CFR 434 Coal Remining Effluent Guidelines).

Recommendation #13:

Develop or support legal/administrative mechanisms to encourage implementation of environmentally beneficial response actions at mine sites (e.g., Good Samaritan).

Agency Action:

The NMT, in conjunction with OW, is currently reviewing various Congressional approaches to passing a Good Samaritan bill to encourage voluntary cleanups of mines.

Recommendation #14:

Work cooperatively to develop standardized methods for characterizing/analyzing environmental concerns, predicting geochemical changes, and establishing performance standards.

Agency Action:

In 2001, the Agency issued the OERR Abandoned Mine Site Characterization and Cleanup Handbook, which includes methods to better characterize mine wastes and their associated impacts. Region 10 has recently issued its Hardrock Mining Sourcebook to promote better characterization and analyses of mining wastes. For the last five years, Regions 3 and 8, as well as ORD, have participated in the Acid Drainage Technology Initiative which promotes the characterization, prediction, and clean-up of acid mine drainage.